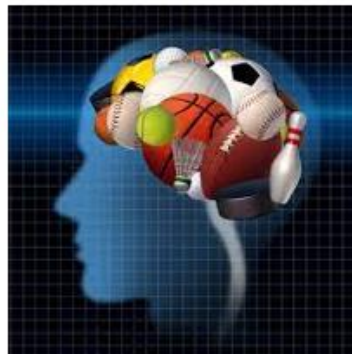


AQA A-Level

Physical Education

Year 11 – 12 Transition Work

Student name: _____



Contents:

Course Information

Section A - Applied Anatomy and Physiology

Section B - Skill Acquisition

Section C - Sport and Society and Technology in Sport

Recommended Resources

The A-Level PE Course

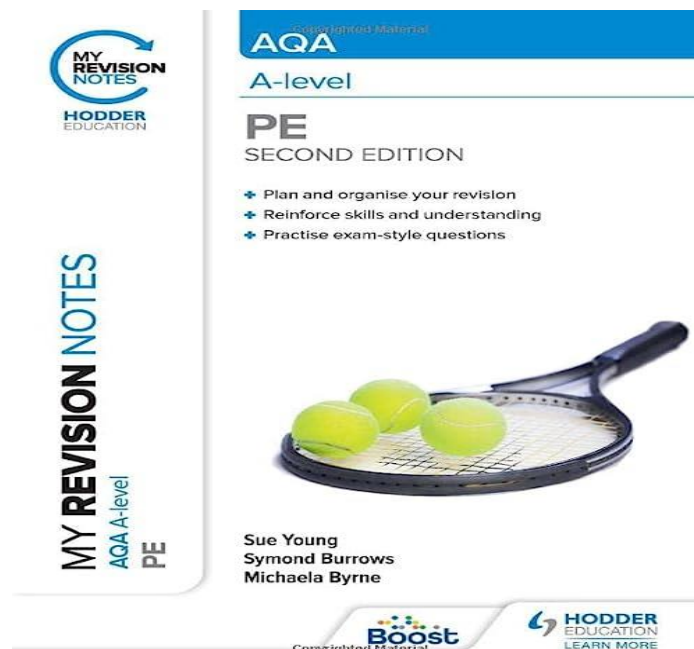
Our A-level specification in physical education equips students with both a depth and breadth of knowledge, understanding and skills relating to scientific, socio-cultural and practical aspects of physical education.

In the first year we develop a foundation knowledge of the core principles of PE, including anatomy and physiology, acquisition of skill and sociology. We also complete your written coursework, which involves analysing and evaluating a chosen weakness using your theoretical knowledge gained over the first year.

In the second year you will enhance your understanding of exercise physiology, biomechanics, sports psychology, and sociology. You will also provide video evidence of you performing in a fully competitive sport in one chosen activity. As such there is a requirement that you also participate in our sports regularly.

Revision guide

Please purchase the recommended revision guide to support you on the course.



Assessment Objectives

AO1 Demonstrate knowledge and understanding of factors that underpin performance and involvement in physical activity and sport.

AO2 Apply knowledge and understanding of factors that underpin performance and involvement in physical activity and sport.

AO3 Analyse and evaluate factors that underpin performance and involvement in physical activity and sport.

AO4 Demonstrate and apply relevant skills and techniques in physical activity and sport. Analyse and evaluate performance.

Types of Exam Questions

Identify which one of the following statements defines expiratory reserve volume.

- A The amount of air breathed in or out per breath
- B The amount of air left in the lungs after maximal expiration has occurred
- C The amount of air that can be forcibly expelled after a normal breath
- D The amount of air that can be forcibly inspired at the end of a breath

☐
☐
☐
☐

[1 mark]

Multiple -
choice
questions

Short
answer
questions

Using an example from sport, describe the term 'social change'.

[3 marks]

The Church encouraged the post-industrial game of football.

Explain how they achieved this and their reasons for encouraging the development of football.

[8 marks]

8
mark
questions

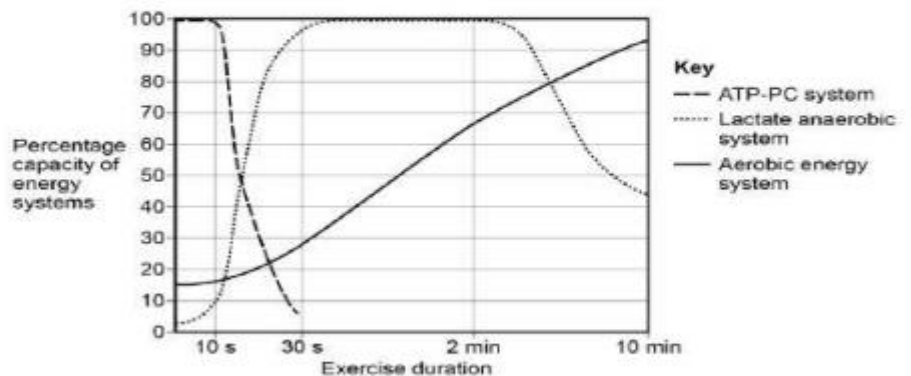
15
mark
questions

Table 2 shows the times of an elite athlete for a 100m, 400m and 3000m race. Figure 2 shows the relative contribution of the energy systems on the energy continuum.

Table 2

Event	100m	400m	3000m
Time	10.49 secs	47.40 secs	8:06.11

Figure 2



Using Figure 2, analyse and evaluate the contribution of each energy system for each event identified in Table 2.

[15 marks]

Assessments

Paper 1: Factors affecting participation in physical activity and sport

What's assessed

Section A: Applied anatomy and physiology

Section B: Skill acquisition

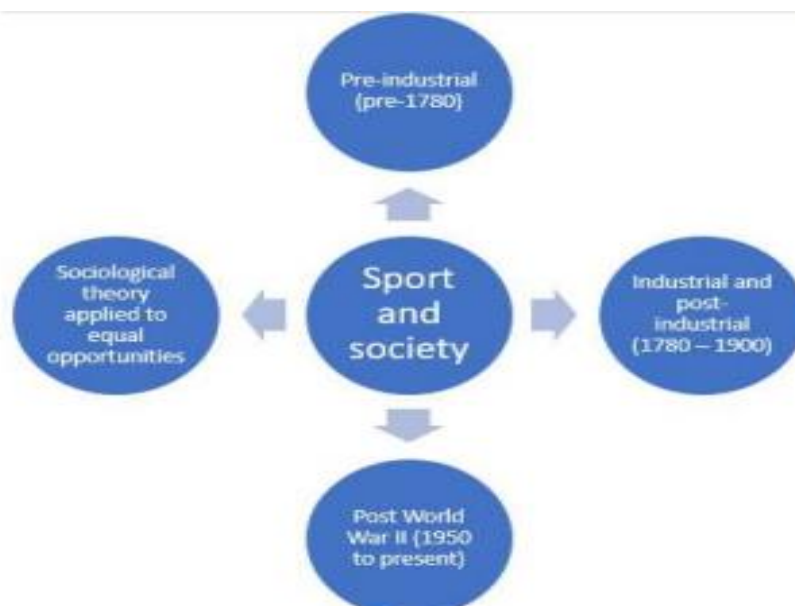
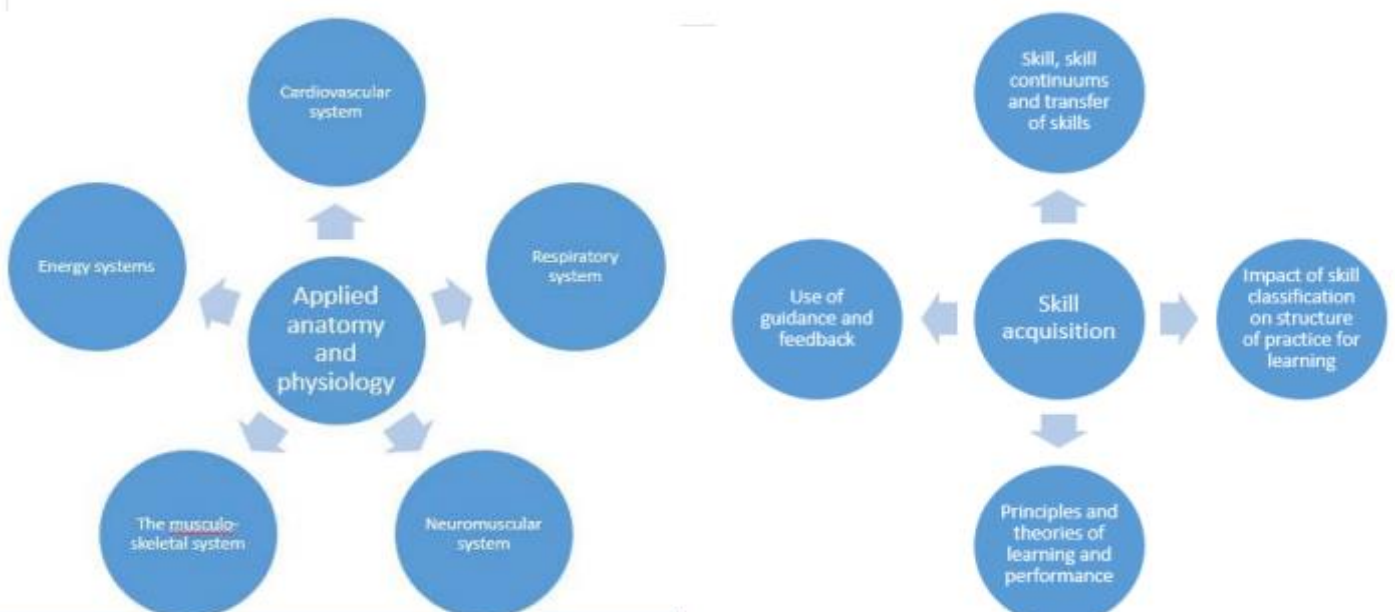
Section C: Sport and society

How it's assessed

- Written exam: 2 hours
- 105 marks
- 35% of A-level

Questions

- Section A: multiple choice, short answer and extended writing (35 marks)
- Section B: multiple choice, short answer and extended writing (35 marks)
- Section C: multiple choice, short answer and extended writing (35 marks)



Non-examined assessment (NEA)

Non-exam assessment: Practical performance in physical activity and sport

What's assessed

Students assessed as a performer or coach in the full sided version of one activity.

Plus:

written/verbal analysis of performance.

How it's assessed

- Internal assessment, external moderation
- 90 marks
- 30% of A-level

The non-exam assessment (NEA) aspect of the qualification requires students to develop their ability and aptitude in physical activity, demonstrating appropriate skills and techniques outlined below. This aspect of the specification requires students to:

- perform a range of skills and techniques in physical activity and sport
- make decisions, implement strategies, tactics and/or compositional ideas, and apply knowledge and understanding of rules and regulations while performing physical activity and sport
- apply knowledge and understanding of theories, concepts, principles and methods to physical activity and performance
- evaluate performance in physical activity and sport, applying relevant knowledge and understanding.

There are two aspects to the NEA:

1. Performance assessment (practical performance)

Students are required to be assessed in one activity in the role of player/performer or coach. Students are required to be assessed in the full context of their chosen activity and role. Students will be assessed for all the activities in the following skills:

- Area of assessment 1: Technical quality – aspect 1 (15 marks).
- Area of assessment 2: Technical quality – aspect 2 (15 marks).
- Area of assessment 3: Application of strategic/tactical awareness (15 marks).

2. performance analysis assessment (analysis and evaluation)

Students are required to analyse and evaluate, using appropriate theoretical content included in the specification, a performance as either player/performer or coach, in one activity from the specification. Students can analyse and evaluate their own performance or the performance of another, if it is in an activity that is from the specification. This can be completed either:

- in a purely written format, or
- via a combination of a written format (e.g., continuous prose/PowerPoint slides etc) and additional verbal explanation (e.g., expanding on PowerPoint presentation/interview). Students will be assessed on their performance analysis assessment in the following two skills:

1) Analysis (20 marks)

Analysis Students should identify and explain two weaknesses: one from Area of assessment 2 and one from Area of assessment 3. The weaknesses can be in their own performance or the performance of another. For each area of assessment, students may choose just one weakness (to show depth of knowledge) or more than one weakness (to show breadth of knowledge), but students must analyse weaknesses consistently in order to meet the bands in the assessment criteria. Weaknesses must:

- link to either the core or advanced skills/tactics at A-level
- be from a competitive context
- be analysed in relation to the desired outcome (this may be a comparison to an elite performer, correct technical model or own/others' successful performance).

1) Evaluation (25 marks)

Students must demonstrate their knowledge of theoretical cause(s) and correction(s) for each of the weaknesses identified, i.e., the weakness(es) from Area of assessment 2 and the weakness(es) from Area of assessment 3.

They must demonstrate depth of theoretical understanding across both weaknesses. All causes and corrective measures used by the students must be from the theoretical content within the specification.

Section A

Applied Anatomy and Physiology

Cardiovascular System

1.

Physical Health and the Cardiovascular System:

The following words are all problems that can occur as a result of poor physical fitness.

Heart disease

High blood pressure

Effects of cholesterol

Stroke

Using these words, explain the process of high cholesterol leading to a stroke or heart attack.

2.

'Lifestyle Choices' are day to day decisions that we make that can make a difference to our health and fitness. What lifestyle choices can lead to a lower chance of heart disease/stroke?

3.

Name 3 sports which require good cardiovascular fitness:

1.

2.

3.

In order to assess 'fitness' in sports such as these, we can look at a performer's stroke volume and cardiac output.

Stroke Volume = The _____ of blood pumped out by the heart _____ in each contraction.

Cardiac Output = The _____ of blood pumped out by the heart _____ per _____.
(Heart Rate x Stroke Volume).

Ventricles	Volume	Minute	Volume	Ventricles
------------	--------	--------	--------	------------

4.

Explain what you believe will happen to stroke volume and cardiac output as a result of exercise.

5.

The Hormonal, Neural and Chemical Regulation of Responses during Physical Activity

Research the following three terms.

Hormonal –

Neural –

Chemical –

6.

Redistribution of Blood Flow:

During exercise blood must be distributed to areas of the body that require an increased level of oxygen. This redistribution of blood flow is known as **vascular shunting**.

How would the following performers benefit from the **vascular shunt mechanism**? Which muscle groups will require more oxygen?





7.

How does eating just before exercising have an effect on **vascular shunting**?

8.

How is vasodilation used by the body during exercise?

How is vasoconstriction used by the body during exercise?

9.

Sympathetic v Parasympathetic Systems:

The sympathetic system can speed up the cardiac impulses given out by the cardiac conduction system, whereas the parasympathetic system can decrease these impulses and heart rate.

Both of these control mechanisms are controlled by the **medulla oblongata** in the brain.

If **sympathetic** nervous impulses are sent from the brain to the SAN, what will happen? What might an individual be doing at this point?

10.

If **parasympathetic** nervous impulses are sent from the brain to the SAN, what will happen? What might an individual be doing at this point?

Chemoreceptors:

During _____ the **chemoreceptors** detect an increase in _____. Nerve _____ are therefore sent to the _____ in the brain and the _____ system is activated and impulses are sent to the SA _____ in order for contractions to increase. This will lead to an increase in heart rate and the supply of _____ for the body.

Impulses Medulla Oblongata Exercise Oxygen Carbon Dioxide Node Sympathetic Nervous

11.

Baroreceptors:

The **baroreceptors** detect an increase or decrease in _____ by detecting the stretching of the _____ wall. An increase in arterial pressure will result in the baroreceptors sending a _____ to the _____ in the brain. The _____ system will then be activated and impulses are sent to the _____ node for contractions to decrease. However during exercise the baroreceptor _____ point increases, so that heart rate does not _____ down.

Proprioceptors:

Proprioceptors are located in _____, joints and tendons. During _____ they detect an increase in muscle _____. An _____ is sent to the _____ and the sympathetic _____ system is activated. An impulse is sent to the _____ node and heart rate is _____.

12.

The Transportation of Oxygen:

Haemoglobin –

Oxyhaemoglobin –

Myoglobin –

Plasma –

Mitochondria -

Put each of these key words into the following paragraph in order to explain the transportation of oxygen.

During exercise, oxygen will attach to _____. As a result _____ is formed, whereby it is transported via the blood _____ to the working muscles. Due to the low pressure of oxygen at the muscle tissues, the oxygen will release itself from the haemoglobin and diffuse into the muscle cells. In the muscle cells, _____ will be present, which stores oxygen and allows it to be used quickly for energy production. Aerobic respiration will then take place at the _____.

13.

Venous Return:

Venous return is the flow of blood back to the heart, via the veins and specifically the vena cava. During exercise, **venous return** increases. As a result of this, more blood will also be ejected from the heart (stroke volume).

Venous Return Mechanisms:

The blood in the veins is at a much lower pressure than in the arteries, particularly as it goes through the Vena Cava and into the heart. Why do you think this is?

Due to this low pressure of blood in the veins, the **venous return mechanisms** are required in order to help Venous Return. These are as follows:

1. The Skeletal Muscle Pump – Muscles _____ and relaxing are constantly changing shape. This results in muscles pressing on nearby _____. This causes a pumping action, which pushes blood back towards the heart.

2. The Respiratory Pump

Breathing in and out causes _____ in many muscles, as well as the diaphragm. This causes a constant change in the _____ of the thoracic (chest) cavity, compressing the veins and causing venous return.

3. Pocket Valves

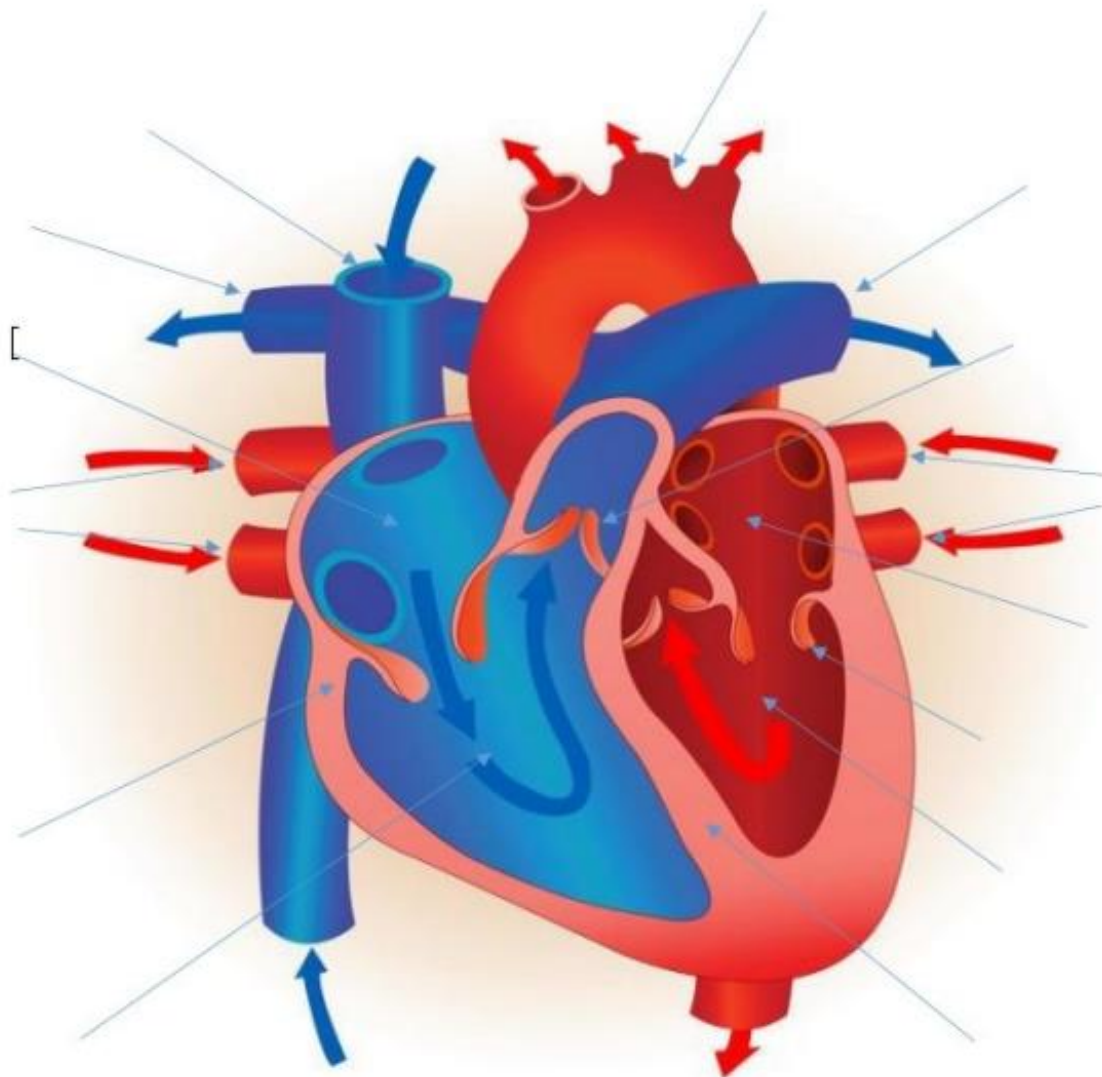
Veins are full of pocket valves. As blood passes through these valves, they _____ in order to prevent the _____ of blood.



contractions close contracting pressure veins backflow

14.

The Heart – Chambers, Arteries, Veins & Valves



Vena Cava	Right Pulmonary Artery	Right Aorta	Right Pulmonary Vein	
Tricuspid Valve	Right Ventricle	Septum	Left Ventricle	Bicuspid valve
Left Aorta	Left Pulmonary Vein	Left Pulmonary Artery		

The Respiratory System

15.

Recap the structure of the respiratory system by listing all the structures that an oxygen molecule would pass through on its journey from the air outside to the bloodstream.

Breathing Mechanics

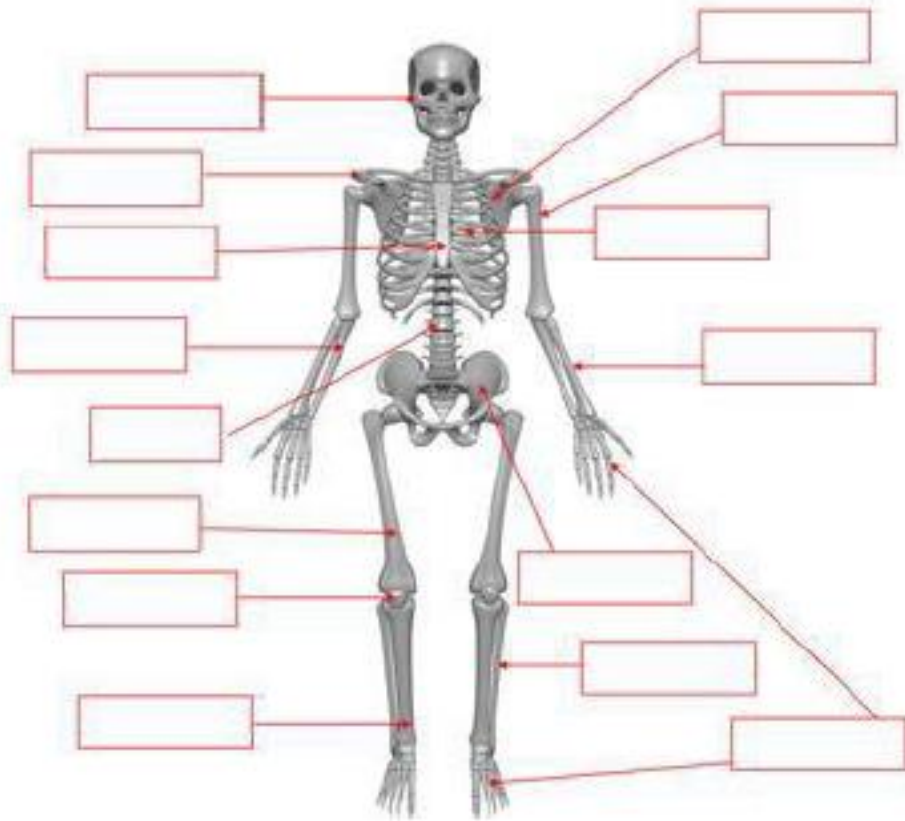
16. What happens to the depth and rate of breathing during exercise?

17. Which extra muscles are involved in breathing during exercise?

The Skeletal System

18.

Label the skeleton below, identifying where each bone is located.



19. Describe the frontal and sagittal planes of movement and give a sporting example for each.

Frontal:

Sagittal:

Section B

Skill Acquisition

Classification of Skills

20. How can we classify a skill? What must be considered when doing this?

21. Give examples for each of the different classifications.

Difficulty - (Simple - Complex skills continuum):

Simple skills:

- Straightforward skill without many decisions to make.

Example: _____

Complex skill:

- Harder skill, where lots of decisions must be made.

Example: _____

Environmental influence – (The Open-Closed Skills Continuum):

Open skills:

- Affected by the environment. Externally paced.

Example: _____

Closed skills:

- Not affected by the environment. Self-paced. Clear beginning and end.

Example: _____

Pacing – (The self - externally paced continuum):

Self-Paced Skills:

- The performer controls the rate at which the skill is executed.

Example: _____

Externally paced skills:

- The environment (e.g., opponent) controls the rate of performing a skill.

Example: _____

Pacing – (The Gross - Fine Skill continuum):

Gross skills:

- Involves large muscle movements. Power over precision.

Example: _____

Fine Skills:

- Involves more intricate movements. Often needs good co-ordination.

Example: _____

Continuity - The discrete-serial-continuous skill continuum:

Discrete skills:

- Clear beginning and end.

Example: _____

Serial skills:

- Several discrete elements put together to make up a sequence of movements.

Example: _____

Continuous skills:

- No obvious beginning and end.

Example: _____

Organisation – (High organisation - Low organisation continuum):

High organisation:

- The skill has subroutines that are difficult to separate.

Example: _____

Low organisation:

- Skill is split into subroutines that are easily identifiable.

Example: _____

Methods of Presenting Practice

22. Research the different types of presentations listed in the table and complete the table.

Type of presentation	Advantages (minimum of 2)	Disadvantages (minimum of 2)	1 sporting example
Whole Skill in its entirety, sub-routines intact	<ul style="list-style-type: none">••	<ul style="list-style-type: none">••	<ul style="list-style-type: none">•
Whole-part-whole Do whole task Isolate weakness Work on it, put it back into whole task	<ul style="list-style-type: none">••	<ul style="list-style-type: none">••	<ul style="list-style-type: none">•
Progressive parts Each part of the skill is added, gradually 'chaining'	<ul style="list-style-type: none">••	<ul style="list-style-type: none">••	<ul style="list-style-type: none">•

Section C

Sport and Society and Technology in Sport

Sport in Pre-industrial Britain

Characteristics of popular recreation:

- **Cruel and violent** – Sports reflected everyday life.
- **Simple/natural** – There was a lack of technology. There were no purpose-built facilities for the masses as they had little money.
- **Occupational** – Work often became the basis of play.
- **Localised** – There was limited transport and communications, so sports developed in isolation.
- **Wagering** – This was a way to go from rags to riches.
- **Occasional** – There was only free time for recreation on holy days and other annual holidays.
- **Limited coding** – The majority of people were illiterate so there were few codified rules, no NGB's and most sports were only played locally.
- **Rural** – Before the industrial revolution, Britain was agricultural and rural.
- **Courtly/popular** – There was a two-class feudal system – two opposite ends of society (very poor and very rich) and sport reflected this

Factors affecting sport in pre-industrial Britain:

Education and Literacy - The upper class were educated and literate. This meant that rules were written down and could be read and understood. Upper class sports were often complex and sophisticated – such as real tennis. The lower class were uneducated and illiterate. Sports reflected this and were simple with no written rules.

Time - The lower class had very little free time to play sport due to long working hours as a labourer – 'seasonal time'. This meant that sports and pastimes were often played on holy days and festivals or in and around the pub. The upper class had more free time to take part in activities and at a time that suited them such as hunting and real tennis.

Money - The upper class had lots of money so they could afford to build purpose-built facilities, as well as correct equipment and clothing. This made some activities very exclusive and only played by the upper class.

Transport - The only form of transport in pre-industrial Britain was horse and cart/carriage or walking. The roads weren't maintained so most activities were held within the village or played against a neighbouring village. However, the upper class who had carriages were able to travel further.

Examples of sports in pre-industrial Britain:

Pedestrianism	This could also be called race walking. The upper class would send footmen ahead of their carriages to warn where they were staying of their arrival. The sport came from when the upper class would challenge each others footmen to race. This led to organised races across the UK. In these, the lower class 'pedestrians' would compete for money and upper class 'gentleman amateurs' would compete for fun and pride. Eventually this sport did lose popularity as the wagering caused a lot of corruption
Mob football	The origins were believed to be in the UK/Europe. It was a game where a team had to get a ball to a 'goal' in the village. It was often played in between two villages. This was a violent mob sport played by the lower class on holy/saints days. It is still played today in Ashbourne.
Cricket	One of the earliest codified sports – and has changed very little since. It was played on village greens by both the upper and lower class. The upper class organised and funded games, as well as having key roles within the team – they were typically more skilful. The lower class were paid to play and were used for power.
Real Tennis	Real tennis was an exclusively upper class sport that originated in France. They played in purpose built facilities so was expensive to play. There was also a complex set of rules. It is not often played today as lawn tennis is more popular.

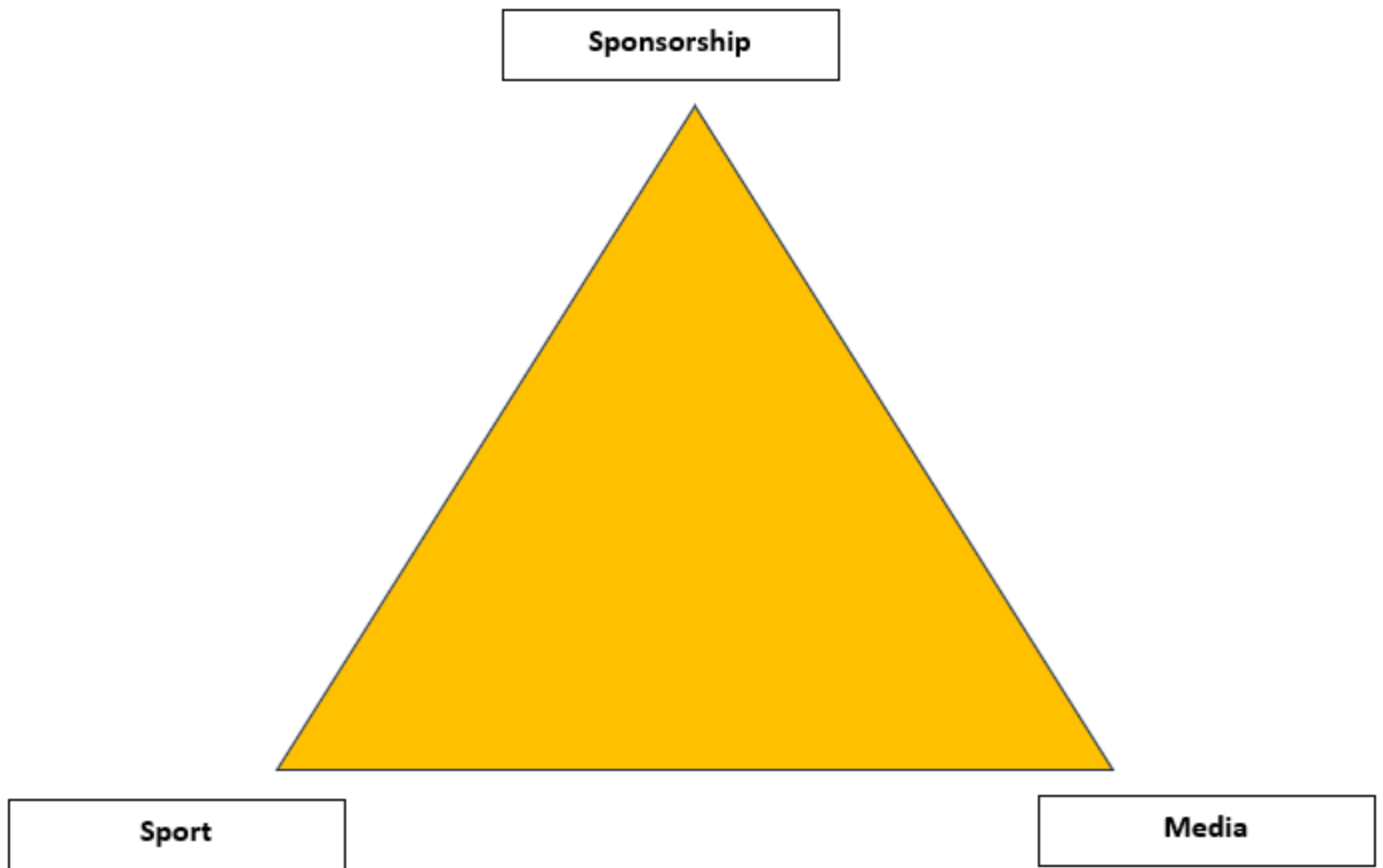
Amateurism and Professionalism

Amateur – A person who competes in sports activities but does not receive monetary rewards for participation.

Professional – A person who competes in sports and activities and earns an income by participation.

To be an amateur was to not be paid so it suited the upper and (eventually) the middle class. In cricket, amateurs and professionals often played on the same team. In order to preserve social distinction, they used separate changing rooms, and the lower-class professionals would bowl and clean the kit. In rugby and football professionalism was controversial. The growth of socially mixed northern teams led to 'broken time payments' where men were compensated for missing work in order to play. These payments were against the amateur principles of playing for the sake of the game and not monetary gain. These tensions and north/south rivalries led to rugby splitting into rugby league and rugby union. In golf, the rules were written in the 18th century, but the open championship was first played in 1861. Prior to this, there were separate competitions for amateurs and pros: this was because the pros didn't fit into the sports image of a gentlemanly game.

Sport, Sponsorship and the Media – The Golden Triangle



23. List 2 advantages and 2 disadvantages for each part of the golden triangle.

Sponsorship

Advantage and disadvantage

Sport

Advantage and disadvantage

Media

Advantage and disadvantage

Ethics and Deviance

Ethics – Principles or rules that govern behaviour, either in life generally, or in sport specifically.

Deviance – This is seriously breaking the rules and norms. Deviance in sport is widely considered to be unethical and unacceptable.

Drugs and Doping

Legal supplements – These are used to enhance health, training and sports performance. For example, sports drinks, protein shakes and creatine.

Illegal drugs – This includes the use of anabolic steroids, beta blockers, stimulants and EPO. *Legal supplements*

Examples:

Creatine	Calcium	Cho powders & gels	Glucosamine
Vitamin B12	Liquid meal replacements	Recovery formulas	Energy bars
Sports drinks			

24. Complete the table, identifying advantages and disadvantages for taking legal supplements.

Advantages	Disadvantages

Illegal drugs

Examples:

Peds	Prohibited substances	Prohibited methods	Prohibited substance (specific circumstances)
Steroids	Diuretics	Blood doping	Alcohol
Beta blockers	Masking agents	Enhanced o2 transfer	Cannabinoids
Stimulants	Analgesics	Gene doping	Local anaesthetics

Violence in Sport

Violence – Intense physical force that is directed towards harming another individual or groups of individuals and can cause injury or death. In sport it is often due to an overwhelming desire or pressure to win.

Violence is often linked to sport because:

- Violence in sport can't be separated from society and its norms and values.
- Violent crime and behaviour are features of our society and sport often reflects this and has done for centuries.
- Humans learn through imitation so are more likely to copy role models or significant others.
- Seeing violence both on and off the pitch makes it seem acceptable.

Violence in players and spectators can be caused by:

- Frustration or anger with officials or the result
- Drugs/steroids/alcohol
- If there is a lack of or limited deterrent.
- Rivalries between players/teams/communities
- Provocation or abuse
- Emotional or anger management issues

Violence that is only seen in the players can be caused by:

- Sticks or other implements that can be used as weapons – for example ice hockey
- Kit or equipment that dehumanises opponents
- The violent nature/physical contact involved with some games

Technology and Sport

Elite sport

Access – Disabled athletes now have more opportunities to reach elite levels in sport. Prosthetic devices have been developed for athletes with specific disabilities. For example, 'spring like prosthetics act like a springboard and aid running action and have shock-absorbing properties.

Facilities – There are an increased number of specialist facilities e.g., Team Bath have a push track for skeleton and bobsleigh athletes. Many facilities now have specialist rehab areas/centres and hydro pools – Manchester United bought an MRI scanner to diagnose and monitor players. There has also been an increase in all-weather pitches such as 3G and 4G and many pitches are floodlit. In 2009, Bisham Abbey sports centre spent £2 million on improving facilities to help athletes prepare for London 2012.

Equipment – Equipment is more ergonomic as trainers, bike helmets, skin suits etc. become more and more efficient and fit for purpose. Equipment such as tennis rackets and hockey sticks are now being made from composite materials, so they are more lightweight than their wooden alternatives. Hypoxic chambers and antigravity treadmills are more widely available. Precision hydration allows athletes to monitor sweat loss in an athlete to give accurate levels of hydration for training and competitions. They do this by analysing the sodium content of the sweat so they can determine the right concentration for hydration.

Monitoring of exercise - Technology has led to the development of more effective physiological testing for athletes. An example of this is VO2 max and lactate threshold testing. Many athletes also wear GPS trackers and heartrate monitors during competition that can track speed, distance and heart rate. Performers can be analysed through wind tunnel testing and biomechanics – such as force plates.

Safety – Protective equipment over all sports has improved. It has become more protective and lightweight. Cricket pads are now worn at elite levels to protect the back of the neck and gumshields are worn in rugby and hockey to protect the teeth. High exertion activities can now be monitored through ingestible computers that transmit information about blood pressure and body temperature in order to avoid overexertion.

25. Research the negative impact sport technology has on participation.

26. Research the positive impact sport technology has on participation.

Recommended Resources

The English Game (Sport and Society)
Unstoppable (Sport Psychology)
Icarus (Drugs/Performance)
Stop at Nothing (Doping in Sport)
Coach Carter (Sport Psychology)
The Game Changers (Diet and Nutrition)
Supersize Me (Diet and Nutrition)
Blindside (American Football)
Last Chance U (American Football)
The Last Dance (Michael Jordan)
Losers (Adversity in Sport)
Moneyball
Formula 1 Drive to Survive



All or Nothing
New Zealand All Blacks
This is Football
4 Minute Mile
The Program (Lance Armstrong)
Andy Murray – Resurfacing (Injury Rehabilitation)
Dan Carter – Perfect 10
The Unknown Runner
The Race to Dope (Doping System in Sport)
Muscle and Medals



Kobe Bryant Black Mamba Doc
Being Serena Series
“Is Professionalism Killing Sport” - BBC Documentary
The Psychology of a Winner 2020 Documentary
Trent Alexander Arnold - Living the Dream
Tyson Fury - Road to Redemption



Crossing The Line Australian Cricket
Jurgen Klopp - Journey to Top
Strive for Greatness - LeBron James

Shoe Dog – Phil Knight History/Story of Nike
Bounce – Matthew Syed Neuroscience/Psychology
Black box thinking Matthew Syed Psychology
Unbeatable – Jessica Ennis
No Limits – Michael Phelps
My Time– Bradley Wiggins
Between the lines – Victoria Pendleton

